Measuring illicit financial flows from wildlife trafficking - First results from pilot testing in Viet Nam

7 December 2022
IFF measurement – Viet Nam pilot activities

Pilot activities:
Start: Jan 2022
IFFs types: Wildlife trafficking
Focal point: General Statistical Office (GSO)

Key stakeholders:
• CITES Management Authority
• Ministry of forestry and agriculture

Wildlife trafficking in Viet Nam
• Substantive evidence of Viet Nam as country of transit and destination of wildlife products, especially trafficked from sub-Saharan Africa.
• Factors affecting international wildlife trafficking in Viet Nam:
  - favorable geographical area for global trade goods
  - borderlands between Vietnam and its neighboring countries such as Cambodia and Laos (imports of wildlife products)
  - several connections between Vietnam and China via land, sea, river, and air (exports of wildlife products from Viet Nam to bigger markets in China)

Species/products in focus:
• Elephant ivory (raw and worked tusks)
• Rhino horns
• Pangolin scales
• Big cats (tigers)
• Rosewood logs (Pterocarpus spp. and Dalbergia spp.)
Experiences

* Experiences:
  - Do not have experiences in collecting information on illicit financial flows from wildlife
  - This is the first time GSO take pilot activities under UNODC's instructions
Experiences

*Challenges:
- No data source available on price, quantity, route, organization network
- Information is limited, scattered in many places, there is no connection between agencies involved in illegal wildlife trafficking.
- Due to regulations on the functions and duties of each ministry, sector, agency, information about a particular case (arrest, investigation, punishment, prosecution, etc.) may be scattered in many places.
Experiences

*Limitations in the pilot process:
- Short project implementation time, limited information resources
- Difficult research topic, first time doing and exposed to concepts in the illegal wildlife trafficking
- Due to the COVID-19 epidemic, only online training workshops were held, which limits the exchange and acquisition of information between the stakeholders (UNODC, GSO, relevant ministries, NGOs, etc.)
Planned pilot estimation process

1. Desk research
2. Collection of UNODC and publicly available data
3. National coordination mechanism
4. Interviews
5. Assessment of estimates feasibility
6. Collection of official data from national authorities
7. Data availability assessment with national institutions
8. Production of estimates
9. Review of estimates
10. Refinement of estimates
11. Final report

- Yes
- No

Report on status of data availability and recommendations

- Completed
- Started
- Not yet started
Aggregated wildlife data collection form (supply)

Features:
• Aggregated nation-wide data on supply of illicit wildlife products
• Disaggregated by species and specimen
• Focus: 5 past years

Data collection modules
I. Population estimates
II. Poaching
III. Aggregated seizures
IV. Wildlife trafficking routes
V. Prices (by supply chain actor)
VI. Traffickers
VII. Intermediate costs
VIII. Proceeds of crime
IFFs estimation methodology

Income generation IFFs -> value of exports (inward IFFs) and imports (outward IFFs) of
• Wildlife products, and
• Wildlife-trafficking-related services (transportation, surveillance, storage…)

Value = f(quantity, price)

Considering IFFs from illicit purchase and sale of wildlife species products:

Quantity of wildlife products at a country i, at time t -> demand-supply equation balance

Production \_it + imports \_it – seizures \_it = consumption \_it + exports \_it

Value of wildlife products: wholesale wildlife products prices at the border (import and export prices)

1. In most cases value = quantity * prices. However, for certain specific products (e.g., retail market of carved ivory products) the relationship between value and quantity might be non-linear.
Practical approaches to the estimates

- **Supply side approach** → starts from production/supply of wildlife products to derive exports
- **Demand side approach** → starts from demand (e.g., consumption of wildlife products) in a country to derive imports

Decision based on:
- Country profile (e.g., production of wildlife products exists in the country)
- Availability of data (both in the country and in main origins/destinations)
- Type of wildlife product
- Timeliness of data
Focus
## Demand of wildlife products

### Elephant, rhino and pangolins

<table>
<thead>
<tr>
<th>Species</th>
<th>Specimen</th>
<th>Past 12 months incidence rate</th>
<th>Expenditure of the last purchase (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elephant</td>
<td>Tusks, sculpture/statute, tail hair, ring, tusk powder, bracelet, teeth, meet, jewelry, skin, tail</td>
<td>13%</td>
<td>815</td>
</tr>
<tr>
<td>Rhinoceros</td>
<td>Horn, horn powder, decoration/sculpture, jewelry/bracelet, meat</td>
<td>5.7%</td>
<td>1,765</td>
</tr>
<tr>
<td>Pangolins</td>
<td>Scales, powder, meat, whole body, sculpture/statute, wine</td>
<td>5.9%</td>
<td>799</td>
</tr>
</tbody>
</table>

Potential value of the domestic demand of elephant, rhino and pangolin products, average 2018-2021 (in billion USD)

<table>
<thead>
<tr>
<th>Wildlife products</th>
<th>Minimum</th>
<th>Best</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ivory products</td>
<td>15.52</td>
<td>54.31</td>
<td>93.10</td>
</tr>
<tr>
<td>Rhino products</td>
<td>14.74</td>
<td>51.58</td>
<td>88.42</td>
</tr>
<tr>
<td>Pangolin products</td>
<td>6.90</td>
<td>24.17</td>
<td>41.43</td>
</tr>
</tbody>
</table>

Estimating the supply of elephant tusks (ivory) - production

Estimates of illegally killed elephants

Ivory harvested per elephant

= total ivory supply

Estimates from animal populations
Population estimates compared between two assessments dated. The loss of population that cannot be explained by natural mortality could be attributed to poaching


Data source: MIKE

Detection of carcasses
Detection of carcasses of poached elephants are compared to the detection of the elephants dying for natural causes. The ratio can be used to estimate the number of poaching deaths that occurred.

Data source: MIKE

Average number: 1.9 tusks/elephant
Average weight: 10kg tusks/elephant

Source: UNODC
Estimating the supply of rhino horns

Fig. 3: Tons of rhino horn entering the illegal market, annual average 2016-2018

- Horn from poached animals: 5.8 tons
- Recoveries in the field: -0.5 tons
- Horn from other sources: +0.3 tons

Horn entering the illegal market = 5.6 tons

Note: Numbers are rounded, calculations were done with full precision.

Illicitly killed rhino estimated at 1,060 rhinos/year

Average number: 2 horns/rhino

Average weight: 2.78 kg/horn

= 5.8 tons (or 2,100 horns)
Seizures of wildlife products by Viet Nam authorities

Sources: UNODC WISE Database, based on Viet Nam annual illegal trade reports, WCO and EIA
Illegal elephant ivory tusks prices from Africa to Viet Nam and China

Prices of ivory tusks, per trade level, 2015-2018 average

Broker/runner price in Africa: $138.23
Intermediary/dealers price in Africa: $295.70
Import price into Viet Nam: $430.13
Wholesale price in Viet Nam: $740.17
Export price from Viet Nam to China: $998.92
Wholesale price in China: $1,595.75

Sources: UNODC, Environmental Intelligence Agency, Wildlife Justice Commission
Illegal carved ivory prices in Viet Nam and from Viet Nam to China

Prices of carved ivory, per trade level, 2015-2018 average

- Retail price in Viet Nam: $3,593.97
- Export price from Viet Nam to China: $21,154.95
- Retail price in Viet Nam: $38,715.94

Sources: UNODC, Environmental Intelligence Agency, Wildlife Justice Commission
Illegal rhino horn prices - Africa to Viet Nam and China

Rhino horns prices, per trade level, average 2016-2020

Sources: UNODC, Environmental Intelligence Agency, Wildlife Justice Commission
Illegal pangolin scales prices from Africa to Viet Nam and China

Pangolin scales prices per trade level, average 2015-2018

- Runners/brokers price in African countries: $45
- Dealers/intermediaries price in African countries: $122
- Import price into Viet Nam: $220
- Wholesale price in Viet Nam: $283
- Export price from Viet Nam to China: $409
- Wholesale price in China: $729

Sources: UNODC, Environmental Intelligence Agency, Wildlife Justice Commission
Baseline data – trafficking routes elephant tusks
Baseline data – trafficking routes rhino horns


Source: UNODC World-WISE Database. *This year 2018 is based on partial data.
Baseline data – trafficking routes pangolin scales

Map 1: Trafficking flow map - Pangolin scales (2007-2018)*

*The year 2018 is based on partial data.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).
## Possible intermediate costs of ivory trafficking into Viet Nam (USD per kg)

<table>
<thead>
<tr>
<th>Intermediate costs</th>
<th>Service paid</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance and transportation in the transit and destination countries</td>
<td>Clearance costs at Laos Airport and the Laos/Vietnam border, as well as transportation costs to Hanoi</td>
<td>$160</td>
</tr>
<tr>
<td>Material for concealing ivory in the shipment</td>
<td>Cost of the composite material to conceal ivory</td>
<td>$2</td>
</tr>
<tr>
<td>Bribe to Customs in Viet Nam</td>
<td>Amount the custom officer charges to clear 1 kg of ivory in VN</td>
<td>$43</td>
</tr>
<tr>
<td>Shipment via air cargo from Nigeria to VN</td>
<td>Price to send ivory via air cargo.</td>
<td>$68</td>
</tr>
</tbody>
</table>

Source: UNODC field work, Environmental Intelligence Agency, Wildlife Justice Commission
Possible intermediate costs of rhino horns trafficking into Viet Nam (USD per kg)

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<td>$ 160</td>
</tr>
<tr>
<td>Transportation costs</td>
<td>From Nigeria to Viet Nam. No transportation mode specified</td>
<td>$ 688</td>
</tr>
</tbody>
</table>

**Note:** rhino horn is much more valuable than ivory so usually the transportation cost for rhino horn is more expensive per kg. That is why rhino horns are usually sent in small quantity (1-50kg) while ivory are sent in larger quantity (250-500kg).

Source: UNODC field work, Environmental Intelligence Agency, Wildlife Justice Commission
## Summary of collected data – ivory tusks

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data collected</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Estimated number of elephants poached</td>
<td>UNODC Wildlife Crime Report 2020</td>
</tr>
<tr>
<td>Seizures</td>
<td>Mass of ivory tusks seized in Viet Nam (substantially whole tusks, raw ivory pieces)</td>
<td>WISE database based on CITES illegal trade reports, WCO and other open data sources</td>
</tr>
<tr>
<td>Consumption</td>
<td>Past 12 months incidence rate Expenditure in the last purchase</td>
<td>USAID, Research Study Research Study on Consumer Demand for Elephant, Rhino and Pangolin Parts and Products in Vietnam, 2020</td>
</tr>
<tr>
<td>Prices</td>
<td>Illegal import, domestic wholesale, retail, export prices</td>
<td>UNODC, Environmental Intelligence Agency, Wildlife Justice Commission</td>
</tr>
<tr>
<td>Routes</td>
<td>Trafficking routes based on seizures destined to Viet Nam</td>
<td>WISE database based on CITES illegal trade reports, WCO and other open data sources</td>
</tr>
<tr>
<td>Intermediary costs</td>
<td>Clearance and transportation in the transit and destination countries, shipment costs from African countries to Viet Nam</td>
<td>Environmental Intelligence Agency</td>
</tr>
</tbody>
</table>
## Summary of collected data – rhino horns

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<th>Data collected</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Number of detected dead rhinos in African countries</td>
<td>Convention on International Trade in Endangered Species of Wild Fauna and Flora</td>
</tr>
<tr>
<td>Seizures</td>
<td>Mass of rhino horns seized in Viet Nam (substantially whole rhino horns, horn pieces)</td>
<td>WISE database based on CITES illegal trade reports, WCO and other open data sources</td>
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## Summary of collected data – pangolin scales

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<th>Indicator</th>
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</tr>
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<tbody>
<tr>
<td>Supply</td>
<td>No available information</td>
<td>N/A</td>
</tr>
<tr>
<td>Seizures</td>
<td>Mass of scales seized in Viet Nam</td>
<td>WISE database based on CITES illegal trade reports, WCO and other open data sources</td>
</tr>
<tr>
<td>Consumption</td>
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<td>Clearance costs</td>
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Challenges and pending issues

Data sources
• No available data from Viet Nam authorities, as per data availability assessment
• Except for seizures, all data come from public data sources

Supply
• No information on pangolins, tigers or rosewood timber supply

Trafficking
• Incomplete information on trafficking routes from African countries to Viet Nam
• Missing information on the distribution of exports from Viet Nam to China per type of product (raw, carved)

Consumption
• Although the potential value of the domestic market for rhino horns, ivory and pangolins was estimated, estimating the quantity of products purchased at the national level is challenging
Estimating IFFs – pending steps

Supply
Update estimates of African rhino horns and ivory tusks supply -> coordination with other agencies required.

Trafficking
• Estimate the flows of rhino horns and ivory tusks from African countries to the rest of the world by subtracting from Africa’s supply the seizures in Africa and out of Africa.

• Estimate the proportion of seizures of rhino horns and ivory tusks from African countries to Viet Nam (with seizures).

• Estimate Viet Nam imports by multiplying this proportion by the flows of rhino horns and ivory tusks from African countries to the rest of the world.

Outward IFFs
• Estimate outward IFFs by multiplying Viet Nam imports by the illicit import prices
Thank you!